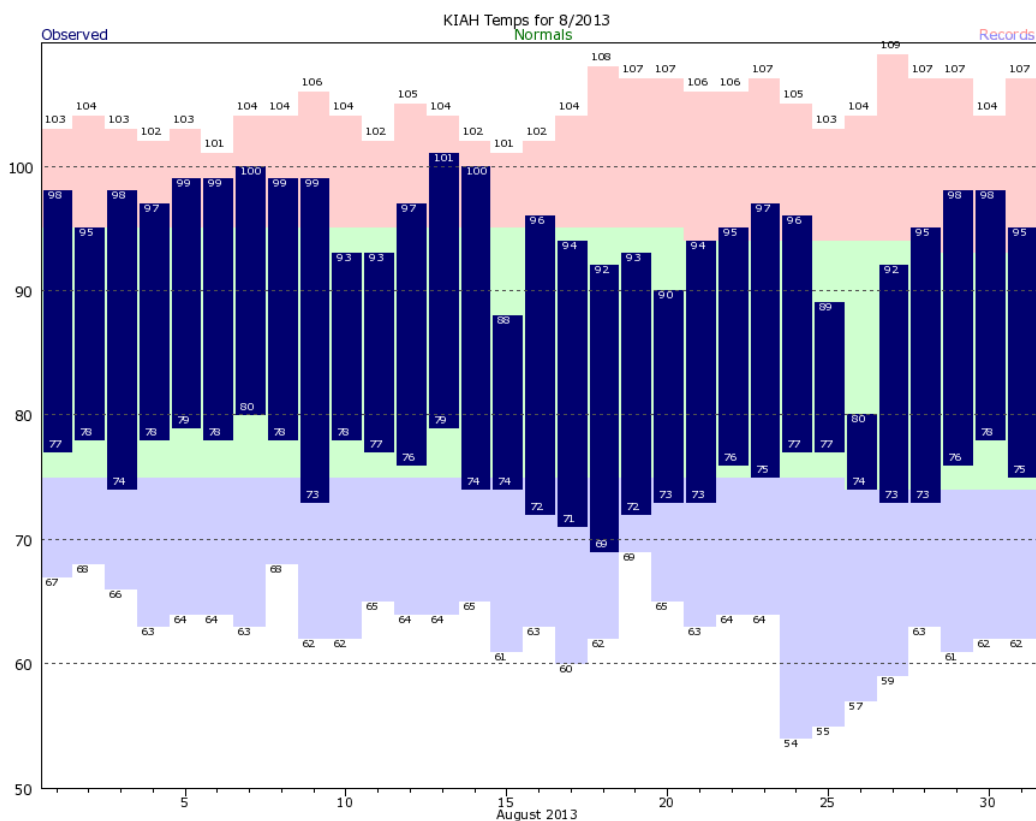




# August 2013 Climate Summary for SOUTHEAST TEXAS WFO Houston/ Galveston



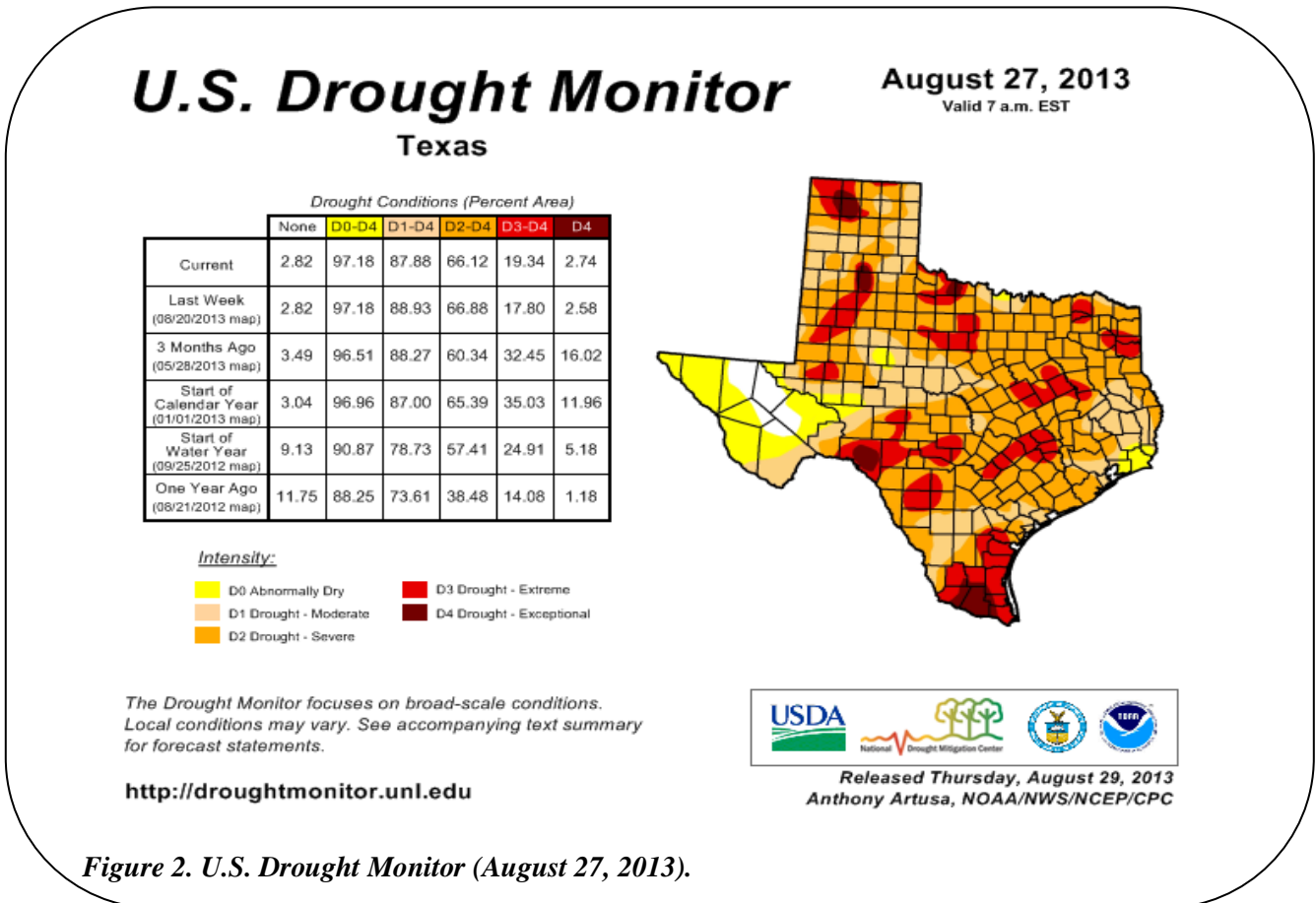
Temperatures across southeast Texas were near to slightly above normal during the month of August 2013 (Figure 1). The month began and ended with several locations experiencing daytime temperatures near 100. In contrast, the mid-month period experienced cooler and wetter conditions. Drought conditions were eased over portions of the coastal counties south of Freeport where above normal rainfall fell.



**Figure 1. Daily August high/low temperatures for Houston IAH. The average temperature for the month was 85.3 degrees which is 0.7 degrees above normal**

The subtropical ridge settled overhead the central and eastern parts of the state during the first two weeks of the month. This caused several locations inland of the coast to experience 100 degree afternoons. In addition to the hot temperatures, heat advisories were issued from the 4th to the 9th. Relief arrived during the third week as a weakness in the upper level ridge evolved into an upper level trough that extended over the Texas coast. The resulting northerly flow pushed a cold front through the area that in turn brought rain and cooler temperatures which alleviated the earlier hot and dry weather.

Even though the subtropical ridge re-established itself over the southern plains during the last week of the month, a return of daytime temperatures in the 90s to around 100 were relieved by isolated to scattered showers and thunderstorms.



**Figure 2. U.S. Drought Monitor (August 27, 2013).**

Beneficial rainfall during August 2013 helped ease the severe drought conditions over the most of the coastal counties. However, several 100 degree days overcame the rainfall benefit across the northwestern set of counties. As of the August 27<sup>th</sup>, the U.S. Drought Monitor (Figure 2) found extreme drought in those areas west of the Brazos River and north of Interstate 10. Severe drought was found over most of the remaining counties except for Chambers and southern Liberty counties where abnormally dry conditions were reported.

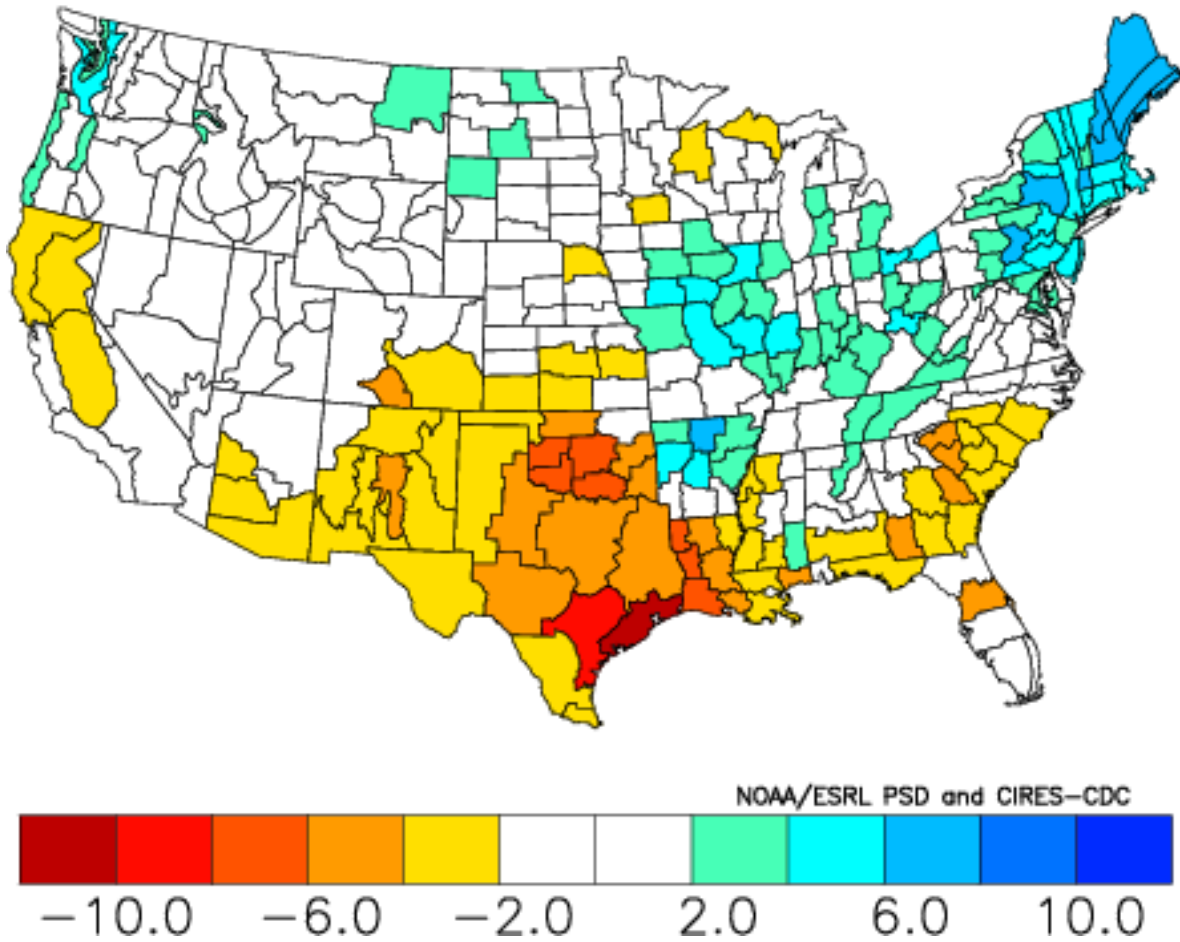
Since Hurricane Ike in September of 2008 Southeast Texas has been extremely dry. The remainder of 2008 (October through December) was below normal for College Station, Houston Intercontinental and Houston Hobby. Rainfall each year after 2008 has been below normal for all three climate sites (besides 2012 for College Station). Cumulative rainfall deficits (1981 – 2010 normals) are now approaching 60” below normal at Houston Hobby and 46” below normal College Station for the almost five year period.

	COLLEGE STATION (CLL)	CITY OF HOUSTON (IAH)	HOUSTON HOBBY (HOU)
2008 (OCT- DEC)	- 7.48	- 0.51	- 5.89
2009	- 1.08	- 2.76	- 2.00
2010	-12.28	- 7.05	- 7.63
2011	-20.09	-25.20	-29.24
2012	+ 1.12	- 7.45	- 2.79
2013 (JAN- AUG29)	- 5.57	-10.36	-11.82
CUMULATIVE	-45.38	-53.33	-59.37

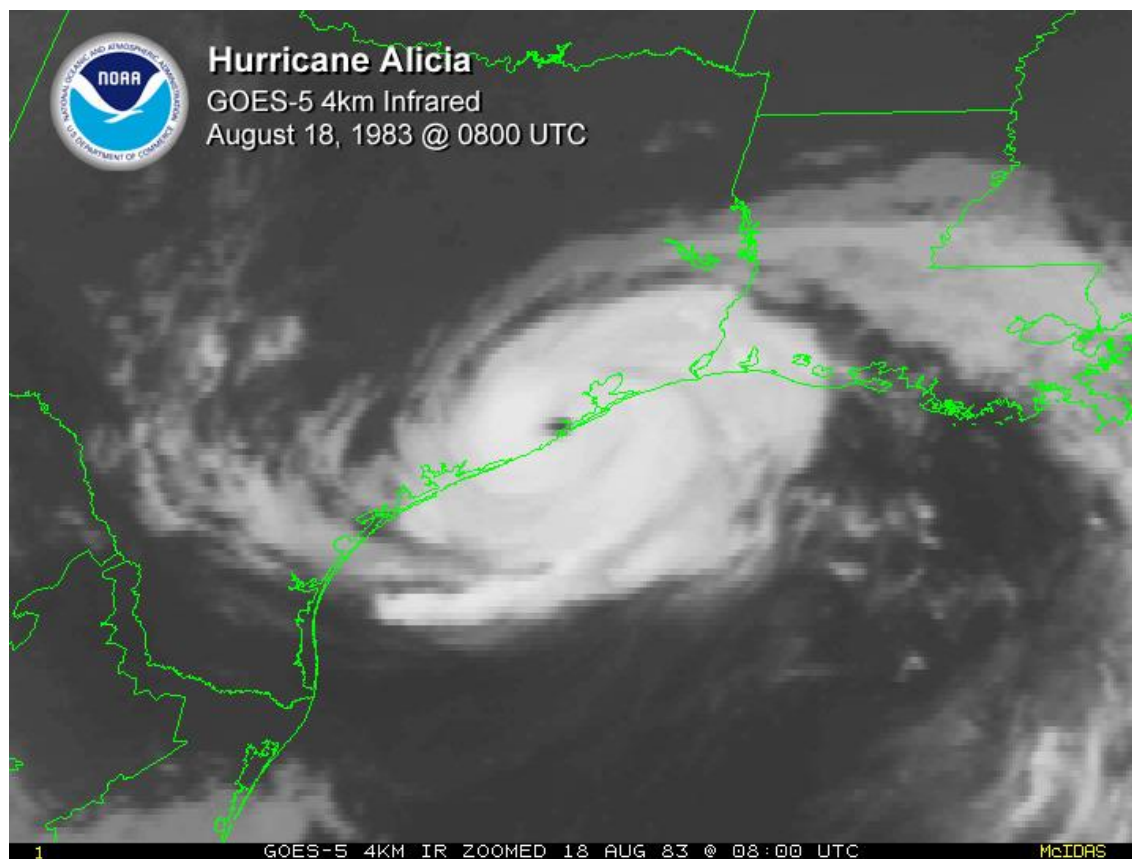
So how does this compare to the rest of the continental United States? Breaking down the continental United States into their respective climate divisions and calculating the average precipitation anomaly for Jan to Dec 2008 to 2012 ranks southeast Texas (climate division 8) number 1 out of 344 climate divisions for the greatest precipitation anomaly (see Figure 3). To say the past couple of years have been dry is an understatement.

100 degree days has also something of note. At College Station (CLL) the 1981 to 2010 average is 14.1 days. In 2009, CLL reported 54 100 degree days. Every year after 2009 has been above average regarding the number of 100 degree days for CLL. This makes five years in a row with the number of 100 degree days above 14.1 since 1914 (1910 - 1914).

Composite Precipitation Anomalies (inches)  
Jan to Dec 2008 to 2012  
Versus 1981–2010 Longterm Average



*Figure 3: Composite precipitation anomalies for the United States from 2008 to 2012*



*Figure 4. Hurricane Alicia making landfall along the upper Texas coast on (August 18, 1983)*

August 18<sup>th</sup> marked the 30 Year Anniversary of Hurricane Alicia's landfall along the upper Texas coast (Figure 4). Alicia was a major hurricane (Category 3) when the center moved onshore early in the morning about 25 miles southwest of Galveston. Twenty-one deaths were attributed to this tropical cyclone, and portions of southeast Texas experienced significant damage due to winds, rains and tornadoes. Rainfall records for the 18<sup>th</sup> still stand today – GLS had 6.28" of rain, IAH had 6.69" of rain, and CLL had 3.20" of rain.

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